

CLAIMS

1. A synthetic gene which is capable of modifying target gene expression in a cell, tissue
or organ of a prokaryotic or eukaryotic organism which is transfected or transformed
5 therewith, wherein said synthetic gene at least comprises a structural gene sequence
comprising a nucleotide sequence which is substantially identical to the nucleotide
sequence of said target gene or a derivative thereof or a complementary sequence
thereto placed operably under the control of a promoter sequence which is operable
in said cell, tissue or organ.
- 10 2. A synthetic gene which is capable of modifying the expression of a target gene in a
cell, tissue or organ of a prokaryotic or eukaryotic organism which is transfected or
transformed therewith, wherein said synthetic gene at least comprises multiple
structural gene sequences, wherein each of said structural gene sequences comprises
15 a nucleotide sequence which is substantially identical to the nucleotide sequence of
said target gene or a derivative thereof or a complementary sequence thereto and
wherein said multiple structural gene sequences are placed operably under the control
of a single promoter sequence which is operable in said cell, tissue or organ.
- 20 3. A synthetic gene which is capable of modifying the expression of a target gene in a
cell, tissue or organ of a prokaryote or eukaryote which is transfected or transformed
therewith wherein said synthetic gene at least comprises multiple structural gene
sequences wherein each of said structural gene sequences is placed operably under the
control of a promoter sequence which is operable in said cell, tissue or organ and
25 wherein each of said structural gene sequences comprises a nucleotide sequence which
is substantially identical to the nucleotide sequence of said target gene or a derivative
thereof or a complementary sequence thereto.
4. A genetic construct which is capable of modifying the expression of an endogenous
30 gene or target gene in a transformed or transfected cell, tissue or organ wherein said

genetic construct at least comprises the synthetic gene of the invention and one or more origins of replication and/or selectable marker gene sequences.

5. A cell, tissue, organ or organism comprising the synthetic genes and genetic constructs described herein.
6. Plasmid pEGFP-N1 MCS or a derivative thereof.
7. Plasmid pCMV.cass or a derivative thereof.
8. Plasmid pCR.Bgl-GFP-Bam or a derivative thereof.
9. Plasmid pCR.SV40L or a derivative thereof.
10. Plasmid pCMV.SV40L.cass or a derivative thereof.
11. Plasmid pCR.BEV.1 or a derivative thereof.
12. Plasmid pCR.BEV.2 or a derivative thereof.
13. Plasmid pCR.BEV.3 or a derivative thereof.
14. Plasmid pEGFP.BEV.1 or a derivative thereof.
15. Plasmid pCMV.BEV.2 or a derivative thereof.
16. Plasmid pCMV.VEB or a derivative thereof.
17. Plasmid pCMV.BEVnt or a derivative thereof.

18. Plasmid pCMV.BEVx2 or a derivative thereof.
19. Plasmid pCMV.BEV.VEB or a derivative thereof.
- 5 20. Plasmid pCMV.BEV.GFP.VEB or a derivative thereof.
21. Plasmid pCMV.BEV.SV40L-0 or a derivative thereof.
22. Plasmid pCMV.0.SV40L.BEV or a derivative thereof.
- 10 23. Plasmid pCMV.0.SV40L.VEB or a derivative thereof.
24. Plasmid pCMV.BEV.SV40L.BEV or a derivative thereof.
- 15 25. Plasmid pCMV.BEV.SV40L.VEB or a derivative thereof.
26. Plasmid pCMV.SV40LR.cass or a derivative thereof.
27. Plasmid pCMV.BEV.SV40LR or a derivative thereof.
- 20 28. Plasmid pCMV.TYR or a derivative thereof.
29. Plasmid pCMV.TYRLIB or a derivative thereof.
- 25 30. Plasmid pCMV.Lac or a derivative thereof.
31. Plasmid pCMVLacI.OPRSV1.cass or a derivative thereof.
32. Plasmid pCMVLacI.OPRSV1.GFP.cass or a derivative thereof.

33. Plasmid pCMVLacI.TYR.OPRSV1.GFP or a derivative thereof.